

natorum cannot be clearly demonstrated, this disease is probably "a suppurative excited by the entrance of amniotic fluid and its ingredients into the drum-cavity during parturition," as first claimed by Aschoff (*Zeitschr. f. Ohrenh.*, 1897). In acute catarrhal inflammation of the middle ear it seems that streptococci and pneumococci play the prominent part, while in chronic purulent catarrhs the staphylococci are the chief pathogenic factors.

In Leutert's account of his own bacteriological investigations in acute and chronic purulent otitis media, his first statement of practical importance is that the hearing is less reduced in cases of pneumococcal infection of the middle ear than in cases of streptococcal infection of that organ.

The results of Leutert's investigations are summed up as follows:

1. In 63 cases of mastoid empyema after acute aural suppuration, the streptococcus alone was found upon culture 38 times, with impurities 1, and in conjunction with a bacillus 1. The pneumococcus was found pure in culture 11 times, and twice with some uncertainty. The staphylococcus albus pure 5 times, with pneumococci, perhaps, in 1 case. Tuberculosis pure in 2 cases, and once with others not closely determined micro-organisms. In 1 case the cultures remained sterile.

2. In 10 cases of epidural abscess following acute purulent otitis media, the streptococcus was obtained pure in 2 cases, the pneumococcus pure 6 times, and in 1 case with uncertainty, as the guinea-pig used for control experiment did not react. The staphylococcus albus pure in 1 case.

Syringing of the Ear.—Conservative use of the syringe in purulent otitis media is well shown in an article by W. A. GOLDSTEIN (*New York Medical Journal*, July 29, 1899). [A good guide to follow in this matter is never use a syringe if mopping with cotton will cleanse an ear.]

So-called Otitis Media Neonatorum.—L. ASCHOFF (*Arch. of Otol.*, August, 1899) after a series of pathological studies concluded: (1) That "in the tympanic cavity of the new-born child, so long as complete displacement of the fluid by air has not taken place during extra-uterine life, fluid is found present, varying in appearance from clear fluid to a tenacious mucoid plug."

2. Pus formation in the tympanum is not a physiological occurrence, not the prerequisite of the formation of a tympanic cavity, as it is not found in all cases. It must be considered the consequence of a contamination of the tympanic cavity by amniotic fluid.

3. The mucous membrane of the tympanum shows in the new-born child a cellular infiltration corresponding in degree with the intensity of irritation, caused by the elements of the amniotic fluid, but it never reaches the same degree of irritation as is seen in bacterial otitis media.

4. The occurrence of gross particles of vernix and meconium in the tympanum of the new-born child is due to intra-uterine respiratory movements.

5. The retrogression of the foetal mucoid tissue is an intra-uterine occurrence, following laws of growth still unknown, and not in consequence of mechanical influences as Wreden, Wendt, and others infer. The size of the cavum tympani does not allow a determination as to whether respiration has occurred before or after birth.

6. The finding of particles of vernix and meconium in the tympanum would suggest intra-uterine respiration, and therefore it may have some medico-legal value. A concluding assertion of Aschoff is that there is no such thing as a "true bacterial otitis media neonatorum."

Chronic Suppurations of the Middle Ear.—E. LEUTERT (*Archiv. f. Ohrenh.*, July, September, 1899) maintains that the investigations of Levy and Schrader, Gradenigo and Pes, Kanthack, Maggiora, Martha and Stern, show three distinct differences between the bacteriological conditions in chronic suppuration of the middle ear and those of acute suppuration of the same cavity, viz.: First, the very frequent occurrence of septic bacteria in the former, and the very rare occurrence of these bodies in genuine acute otitis media; second, the very frequent and, according to some observers, constant occurrence of staphylococci in chronic purulent otitis media; and third, the absence of pneumococci in the latter disease. Stern claims to have found in one case of chronic purulent otitis media the bacterium coli. But Leutert seems to doubt the reliability of the culture in this instance.

Leutert has found in 2 cases of periauricular abscess, without demonstrable affection of the mastoid, the streptococcus pure, and the staphylococcus albus pure in one case.

In 5 mastoid empyemata occurring after chronic suppuration of the middle ear the staphylococcus albus was found pure in one case, with the bacilli of pseudodiphtheria in one case, with bacilli of uncertain nature in two cases, and with streptococci in one case.

In 2 cases of epidural abscess occurring in connection with chronic suppuration in the ear, the staphylococcus albus and a bacillus were found in one case, and the staphylococcus albus in company with a bacillus and streptococci in one case.

In 4 cases of sinus thrombosis with acute empyema of the mastoid; the streptococcus, pure, was found in 3 cases, and with the staphylococcus pyogenes aureus, with a bacillus, in 1 case.

In two cases of mastoid empyema after chronic suppuration of the ear, with sinus thrombosis, the staphylococcus albus, with the bacterium coli commune, was found in one case, and once in company with a bacillus.

In seven cases of brain abscess of otitic origin, the streptococcus pure was found in one case; with a bacillus, in one case; with a bacillus and the staphylococcus albus, in one case; with the staphylococcus albus and proteus vulgaris, in one case; in one case of brain abscess a bacillus apparently pure by culture, and later in this case staphylococci were found by the microscope; in one case the bacterium coli were found pure; and in one case the proteus vulgaris pure.

So far as concerns prompter cessation of middle-ear suppuration, less destruction discovered by operation, lower temperatures and shorter after-treatment, Leutert agrees with Netter and Zaufal that the pneumococcus is the most benignant of all the excitants of middle-ear suppuration. Leutert claims to have shown in eight cases out of ten of epidural otitic abscess that the pneumococcus was the causative organism. He agrees with Vetter that otitic sinus thrombosis is caused almost exclusively by streptococci. Scarlatinous otitis seems to be also entirely produced by streptococci. Leutert